

CLAIMS

1. A signal processing device comprising:

processing region setting means for setting a processing region within image data wherein a light signal of the real world is projected on a plurality of pixels, each having a time integration effect, and a portion of the continuity of the light signal of the real world is lost;

movement vector setting means for setting movement vectors for an object within said image data corresponding to the continuity of the light signal of the real world, wherein a portion of the continuity of said image data is lost;

model generating means for modeling the relation between the pixel value of each of the pixels within said processing region and the pixel value of each of the pixels without said movement blurring occurring, assuming that the pixel value of each of the pixels within said processing region is a value wherein the pixel value of each of the pixels without movement blurring occurring which correspond to said object is integrated while shifting corresponding to said movement vector;

normal equation generating means for generating a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted as to a model generated by said model generating

means, and a second equation which constrains the relation between each of the pixels without said movement blurring occurring; and

actual world estimating means for estimating a pixel value of each pixel wherein said movement blurring is not occurring, by computing said normal equation which is generated by said normal equation generating means.

2. The signal processing device according to Claim 1, wherein said normal equation generating means generates a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted as to the model generated by said model generating means, and a second equation wherein the difference of the pixel value of each pixel wherein said movement blurring is not occurring.

3. A signal processing method comprising:

a processing region setting step for setting a processing region within image data wherein a light signal of the real world is projected on a plurality of pixels, each having a time integration effect, and a portion of the continuity of the light signal of the real world is lost;

a movement vector setting step for setting movement vectors for an object within said image data corresponding

to the continuity of the light signal of the real world, wherein a portion of the continuity of said image data is lost;

a model generating step for modeling the relation between the pixel value of each of the pixels within said processing region and the pixel value of each of the pixels without said movement blurring occurring, assuming that the pixel value of each of the pixels within said processing region is a value wherein the pixel value of each of the pixels without movement blurring occurring which correspond to said object is integrated while shifting corresponding to said movement vector;

a normal equation generating step for generating a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted as to a model generated by the processing in said model generating step, and a second equation which constrains the relation between each of the pixels without said movement blurring occurring; and

an actual world estimating step for estimating a pixel value of each pixel wherein said movement blurring is not occurring, by computing said normal equation which is generated by the processing in said normal equation generating step.

4. A program for a computer to perform predetermined signal processing comprising:

a processing region setting step for setting a processing region within image data wherein a light signal of the real world is projected on a plurality of pixels, each having a time integration effect, and a portion of the continuity of the light signal of the real world is lost;

a movement vector setting step for setting movement vectors for an object within said image data corresponding to the continuity of the light signal of the real world, wherein a portion of the continuity of said image data is lost;

a model generating step for modeling the relation between the pixel value of each of the pixels within said processing region and the pixel value of each of the pixels without said movement blurring occurring, assuming that the pixel value of each of the pixels within said processing region is a value wherein the pixel value of each of the pixels without movement blurring occurring which correspond to said object is integrated while shifting corresponding to said movement vector;

a normal equation generating step for generating a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted as to a model generated by the processing in

said model generating step, and a second equation which constrains the relation between each of the pixels without said movement blurring occurring; and

an actual world estimating step for estimating a pixel value of each pixel wherein said movement blurring is not occurring, by computing said normal equation which is generated by the processing in said normal equation generating step.

5. A recording medium wherein a program is recorded for a computer to perform predetermined signal processing comprising:

a processing region setting step for setting a processing region within image data wherein a light signal of the real world is projected on a plurality of pixels, each having a time integration effect, and a portion of the continuity of the light signal of the real world is lost;

a movement vector setting step for setting movement vectors for an object within said image data corresponding to the continuity of the light signal of the real world, wherein a portion of the continuity of said image data is lost;

a model generating step for modeling the relation between the pixel value of each of the pixels within said processing region and the pixel value of each of the pixels

without said movement blurring occurring, assuming that the pixel value of each of the pixels within said processing region is a value wherein the pixel value of each of the pixels without movement blurring occurring which correspond to said object is integrated while shifting corresponding to said movement vector;

a normal equation generating step for generating a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted as to a model generated by the processing in said model generating step, and a second equation which constrains the relation between each of the pixels without said movement blurring occurring; and

an actual world estimating step for estimating a pixel value of each pixel wherein said movement blurring is not occurring, by computing said normal equation which is generated by the processing in said normal equation generating step.